

Immediate Restart of Domestic ^{238}Pu Production is Imperative to Support Future NASA Missions

NASA STRATEGIC GOAL: ADVANCE SCIENTIFIC KNOWLEDGE OF THE ORIGIN AND HISTORY OF THE SOLAR SYSTEM, THE POTENTIAL FOR LIFE ELSEWHERE, AND THE HAZARDS AND RESOURCES PRESENT AS HUMANS EXPLORE SPACE

Crucial Systems: ^{238}Pu Radioisotope Power Systems

- Provide electrical power for spacecraft and planetary probes that cannot rely on solar energy due to distance from or shadowing of the sun
- Would enable the next phase of more detailed and intensive deep space exploration missions

^{238}Pu Supply Problem

- United States domestic production of ^{238}Pu ceased in 1988
- Limited domestic supply supplemented by purchases from Russia
- Russian production also ceased, only limited quantities remain for possible purchase and soon exhausted, fraught with uncertainty
- NASA Administrator letter to Secretary of Energy (April 29, 2008) stated NASA's projected mission requirements for ^{238}Pu
- NASA is already limiting future mission planning based on the short supply of ^{238}Pu
- Mars Science Laboratory, Outer Planets Flagship 1, and a small number of missions with limited ^{238}Pu demand would exhaust the ^{238}Pu inventory available to NASA

Urgency: Even if the FY2010 DOE Budget Includes Funds for Reestablishing ^{238}Pu Production, NASA's Potential Future Demand for ^{238}Pu Would Not Be Met

- Resumption of domestic ^{238}Pu production would require ~ 8 Years

Congress and NASA Requested the National Research Council (NRC) Undertake a Study of RPS Technologies and Systems [Completed May 2009]

===== NRC High Priority Recommendation =====

The Fiscal-Year 2010 Federal Budget Should Fund the Department of Energy to Reestablish Production of ^{238}Pu